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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,616	12/12/2003	Raymond C. Kurzweil	14202-004001	1709
26161	7590	06/06/2006	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			BEHNCKE, CHRISTINE M	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,616

Applicant(s)

KURZWEIL, RAYMOND C.

Examiner

Christine M. Behncke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: WO00/59581; Choy et al.

DETAILED ACTION

1. This office action is in response to the application filed 12 December 2003, in which claims 1-21 were presented for examination.

Claim Objections

2. **Claim 17** is objected to because of the following informalities: line 6 recites "the second mannequin", this limitation lacks antecedent basis; a mannequin is not recited in the previous limitations, only a second robot. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Choy et al., PCT Publication No. WO00/59581.

4. **(Claims 1 and 13)** Choy et al. discloses a virtual reality encounter system and method comprising, a humanoid robot having tactile sensors positioned along the exterior of the robot (page 3, lines 3-11 and page 10, lines 25-33), the sensors sending tactile signals to a communications network (page 12, lines 16-34 and page 13, lines 18-19); and a body suit having tactile actuators (page 10, lines 5-23), the actuators receiving the tactile signals from the communications network (page 10, lines 5-23 and page 4, lines 33-37).

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5. **(Claims 2 and 14)** Choy et al. further discloses motion sensors positioned throughout the body suit (page 9, lines 3-27), the motion sensors sending motion signals corresponding to movements of each sensor relative to a reference point (page 9, lines 17-23), the motion signals transmitted to the communications network (page 18, lines 6-18); and the humanoid robot, receiving, from the communications network, the signals from the motion sensors (page 16, lines 7-16), the signals from the motion sensors causing a movement of the robot that is correlated to a movement of the body suit (page 4, lines 18-26, page 9, lines 24-27 and page 11, lines 6-9).

6. **(Claims 3 and 15)** Choy et al. further discloses wherein the robot includes actuators corresponding to the motion sensors, the actuators causing the robot to move (page 11, lines 6-9 and page 12, lines 20-34).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4-8, 12, 16, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. in view of Abbasi, US Patent No. 6,786,863.

8. **(Claim 4)** Choy et al. discloses the virtual reality system previously applied to claim 1, further Choy et al. discloses wherein the robot has life-like features (Figure 2), comprising a body (Figure 2 and page 10, line 34-page 11, line 5). Choy et al. does not disclose a camera or a microphone. However, Abbasi teaches a remote physical encounter system comprising a mechanical surrogate with external sensory devices including a camera and a microphone (Column 4, lines 38-42); wherein the camera sends video signals to a communications network (Column 2, lines 54-62); and the microphone sends audio signals to the communications network (Column 2, lines 63-67).

9. **(Claim 5)** Choy et al. further discloses a virtual reality headset linked to the computer system to provide and display video signals and auditory signals to a user (page 3, line 32-page 4, line 4 and page 5, line 29-page 9, line 12). Abbasi further teaches conveying video information from a video camera and auditory information from a microphone attached to a first computing device to a second computing device (Figure 1).

10. **(Claim 6)** Choy et al. discloses wherein the virtual encounter system is used to connect two users in different locations (page 2, lines 18-21) and wherein one user has one avatar and a second user has a second avatar and the movements of each avatar are controlled directly by the sensed movements of the respective users (page 16, lines 7-16), wherein the users use headsets to receive visual and audio signals (page 5, line

29-page 7, line 2). Abbasi further teaches a remote physical encounter system comprising a second mechanical surrogate with external sensory devices including a second camera and a second microphone (Figure 1).

11. **(Claim 8)** Abbasi further teaches wherein the communications network comprises an interface having one or more channels for receiving the audio signals from the microphone and receiving the video signals from the camera (Figure 1); and Choy et al. discloses sending audio and visual signals to the headset of the user (Figure 1 and page 5, line 29-page 7, line 2).

12. **(Claim 16)** Choy et al. discloses rendering video signals received from a communications network using a display device embedded in a headset (page 5, line 29-page 7, line 2) and transducing audio signals received from the communications network using a transducer embedded in the headset (page 3, lines 32-page 4, line 4); but does not disclose a microphone and a camera coupled to the robot. However, Abbasi teaches a mechanical surrogate with external sensory devices including a camera and a microphone (Column 4, lines 38-42); wherein the camera sends video signals to a communications network (Column 2, lines 54-62); and the microphone sends audio signals to the communications network (Column 2, lines 63-67).

13. **(Claim 17)** Choy et al. discloses sending signals to a communications network from a second robot having life-like features (page 16, lines 7-16) and rendering acquired video and audio signals received from a communications network onto a display and a transducer, respectively, in a user headset (page 3, lines 32-page 4, line 4 and page 5, line 29-page 7, line 2). Choy et al. does not disclose sending audio and

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video signals from a second microphone and camera coupled to a second robot.

However, Abbasi further teaches a remote physical encounter method comprising a second mechanical surrogate with external sensory devices including a second camera and a second microphone and sending said signals to a communications network (Figure 1).

14. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the system of Choy et al. with the teachings of Abbasi because teaches that the use of sight and sound is important for easy communication and as Choy et al. suggests the combination of touch, audio and visual stimulation is a powerful and effective means of communication (Column 1, lines 19-22).

15. **(Claim 7)** Choy et al. further discloses wherein the communications network comprises: a first communication gateway in the first location and a second communication gateway in the second location (page 12, line 35-page 13, line 19), the second processor connected to the first processor via a network (page 18, lines 6-18).

16. **(Claims 12 and 21)** Choy et al. further discloses wherein the robot comprises a transmitter to wirelessly send the audio signals, tactile signals, motion signals and the video signals to the communications network (page 14, line 9-page 15, line 16).

Claim Rejections - 35 USC § 103

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17. Claims 9-11 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. in view of Abbasi as applied to claims 5 and 16 above, and further in view of Yee et al., US Patent No. 6,016,385.

18. **(Claims 9 and 18)** Choy et al. in view of Abbasi teaches the robot including a camera, but neither reference discloses wherein the camera is positioned in the eye socket of the robot. However, Yee et al. teaches a robot system wherein a robot is controlled by the actions of a user at a remote location, the robot body including an eye socket and a camera is positioned in the eye socket (Column 5, lines 11-37).

19. **(Claims 10 and 19)** Further Yee et al. teaches, wherein the body of the robot includes an ear canal and a microphone is positioned within the ear canal (Column 4, line 52-Column 5, line 1).

20. **(Claims 11 and 20)** Further Yee et al. teaches wherein the headset of the user comprises a receiver to receive the video signals (Column 5, lines 11-37).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the virtual reality system of Choy et al. in view of Abbasi with the teachings of Yee et al. because as Yee et al. suggests, the virtual interface of the robot, camera in eye socket and microphone in ears, is intended to make the robot more friendly in appearance to a second user, and the microphones in the ears add the benefit of being able to relay to the user a sense of direction of a sound and the cameras in the left and right eye sockets provide the user with information in a three dimensional format similar to how a human would normally view an environment (Column 4, line 52-Column 5, line 49).


Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

05-25-2006


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